IN THE CLAIMS

Please amend the claims as follows:

Claims 1-14 (Canceled).

Claim 15 (New): A method for measuring vibration frequency of a multi-cantilever in which a plurality of cantilevers are implanted towards an inner side of a spiral base and having different natural frequencies are illuminated with a common laser excitation spot so as to simultaneously excite natural vibrations of the plurality of cantilevers by constant light excitation to measure the vibrations.

Claim 16 (New): A device for measuring vibration frequency of a multi-cantilever comprising:

(a) a plurality of cantilevers implanted towards an inner side of a spiral base and having different natural frequencies;

(b) means for simultaneously exciting natural vibrations of the cantilevers by constant light excitation; and

(c) a laser Doppler meter for measuring the vibrations.

Claim 17 (New): The device for measuring vibration frequency of a multi-cantilever according to Claim 16, wherein the cantilevers are disposed radially in a cluster so that the cantilevers are configured to be irradiated with a common excitation spot.

Claim 18 (New): A scanning probe microscope using the device for measuring vibration frequency of a multi-cantilever according to Claim 16 for self exciting the natural frequencies of the cantilevers to detect an interaction between a specimen and a probe at an

end of each cantilever as a change in a self-excitation vibration frequency, a self-excitation vibration amplitude, or a self-excitation vibration phase.

Claim 19 (New): A mass/material detector using the device for measuring vibration frequency of a multi-cantilever according to Claim 16 for self exciting the natural frequencies of the cantilevers to detect a change in a mass adhered to a probe at an end of each cantilever as a change in a self-excitation vibration frequency, a self-excitation vibration amplitude, or a self-excitation vibration phase.

Claim 20 (New): A device for measuring vibration frequency of a multi-cantilever comprising:

(a) a plurality of cantilevers implanted towards an inner side of a spiral base and having different natural frequencies;

(b) means for simultaneously exciting natural vibrations of the cantilevers by constant light excitation; and

(c) a homodyne interferometer for measuring the vibrations.

Claim 21 (New): The device for measuring vibration frequency of a multi-cantilever according to Claim 20, wherein the cantilevers are disposed radially in a cluster so that the cantilevers are configured to be irradiated with a common excitation spot.

Claim 22 (New): A scanning probe microscope using the device for measuring vibration frequency of a multi-cantilever according to Claim 20 for self exciting the natural frequencies of the cantilevers to detect an interaction between a specimen and a probe at an

end of each cantilever as a change in a self-excitation vibration frequency, a self-excitation vibration amplitude, or a self-excitation vibration phase.

Claim 23 (New): A mass/material detector using the device for measuring vibration frequency of a multi-cantilever according to Claim 20 for self exciting the natural frequencies of the cantilevers to detect a change in a mass adhered to a probe at an end of each cantilever as a change in a self-excitation vibration frequency, a self-excitation vibration amplitude, or a self-excitation vibration phase.

Claim 24 (New): A method for measuring vibration frequency of a multi-cantilever in which a plurality of cantilevers having different natural frequencies are disposed and in which natural vibrations of the plurality of cantilevers having different natural frequencies are successively excited by modulation excitation as a result of irradiating the cantilevers with a laser spot to measure the vibrations with a laser Doppler meter and control laser spot position and frequency scanning in accordance with frequency gradients of the plurality of cantilevers, so that a material is detected with the cantilevers.

Claim 25 (New): The method for measuring vibration frequency of a multi-cantilever according to Claim 24, wherein the modulation excitation is a modulation optical excitation.

Claim 26 (New): The method for measuring vibration frequency of a multi-cantilever according to Claim 24, wherein the modulation excitation is a modulation electrical excitation.

Claim 27 (New): A method for measuring vibration frequency of a multi-cantilever in which a plurality of cantilevers having different natural frequencies are disposed and in which natural vibrations of the plurality of cantilevers having different natural frequencies are successively excited by modulation excitation as a result of irradiating the cantilevers with a laser spot to measure the vibrations with a homodyne interferometer and control laser spot position and frequency scanning in accordance with frequency gradients of the plurality of cantilevers, so that a material is detected with the cantilevers.

Claim 28 (New): The method for measuring vibration frequency of a multi-cantilever according to Claim 27, wherein the modulation excitation is a modulation optical excitation.

Claim 29 (New): The method for measuring vibration frequency of a multi-cantilever according to Claim 27, wherein the modulation excitation is a modulation electrical excitation.

Claim 30 (New): A method for measuring vibration frequency of a multi-cantilever in which a plurality of cantilevers having different natural frequencies are implanted radially at an island-shaped base and in which natural vibrations of the plurality of cantilevers having different natural frequencies are successively excited by modulation excitation as a result of irradiating the cantilevers with a laser spot to measure the vibrations with a laser Doppler meter and control laser spot position and frequency scanning in accordance with frequency gradients of the plurality of cantilevers, so that a material is detected with the cantilevers.

Claim 31 (New): The method for measuring vibration frequency of a multi-cantilever according to Claim 30, wherein the modulation excitation is a modulation optical excitation.

Claim 32 (New): The method for measuring vibration frequency of a multi-cantilever according to Claim 30, wherein the modulation excitation is a modulation electrical excitation.

Claim 33 (New): A method for measuring vibration frequency of a multi-cantilever in which a plurality of cantilevers having different natural frequencies are implanted radially at an island-shaped base and in which natural vibrations of the plurality of cantilevers having different natural frequencies are successively excited by modulation excitation as a result of irradiating the cantilevers with a laser spot to measure the vibrations with a homodyne interferometer and control laser spot position and frequency scanning in accordance with frequency gradients of the plurality of cantilevers, so that a material is detected with the cantilevers.

Claim 34 (New): The method for measuring vibration frequency of a multi-cantilever according to Claim 33, wherein the modulation excitation is a modulation optical excitation.

Claim 35 (New): The method for measuring vibration frequency of a multi-cantilever according to Claim 33, wherein the modulation excitation is a modulation electrical excitation.

Claim 36 (New): A method for measuring vibration frequency of a multi-cantilever in which a plurality of cantilevers having different natural frequencies are implanted towards an inner side of a spiral base and in which natural vibrations of the plurality of cantilevers having different natural frequencies are successively excited by modulation excitation as a result of irradiating the cantilevers with a laser spot to measure the vibrations with a laser Doppler meter and control laser spot position and frequency scanning in accordance with frequency gradients of the plurality of cantilevers, so that a material is detected with the cantilevers.

Claim 37 (New): The method for measuring vibration frequency of a multi-cantilever according to Claim 36, wherein the modulation excitation is a modulation optical excitation.

Claim 38 (New): The method for measuring vibration frequency of a multi-cantilever according to Claim 36, wherein the modulation excitation is a modulation electrical excitation.

Claim 39 (New): A method for measuring vibration frequency of a multi-cantilever in which a plurality of cantilevers having different natural frequencies are implanted towards an inner side of a spiral base and in which natural vibrations of the plurality of cantilevers having different natural frequencies are successively excited by modulation excitation as a result of irradiating the cantilevers with a laser spot to measure the vibrations with a homodyne interferometer and control laser spot position and frequency scanning in accordance with frequency gradients of the plurality of cantilevers, so that a material is detected with the cantilevers.

Claim 40 (New): The method for measuring vibration frequency of a multi-cantilever according to Claim 39, wherein the modulation excitation is a modulation optical excitation.

Claim 41 (New): The method for measuring vibration frequency of a multi-cantilever according to Claim 39, wherein the modulation excitation is a modulation electrical excitation.

Claim 42 (New): A method for measuring vibration frequency of a multi-cantilever in which a plurality of cantilevers having different natural frequencies are implanted towards an inner side of a spiral base and in which the plurality of cantilevers having different natural frequencies are illuminated with a common laser excitation spot so as to simultaneously excite natural vibrations of the plurality of cantilevers by constant light excitation to measure the vibrations with a laser Doppler meter.

Claim 43 (New): A method for measuring vibration frequency of a multi-cantilever in which a plurality of cantilevers having different natural frequencies are implanted towards an inner side of a spiral base and in which the plurality of cantilevers having different natural frequencies are illuminated with a common laser excitation spot so as to simultaneously excite natural vibrations of the plurality of cantilevers by constant light excitation to measure the vibrations with a homodyne interferometer.

Claim 44 (New): A device for measuring vibration frequency of a multi-cantilever comprising:

(a) a plurality of cantilevers implanted radially at an island-shaped base and having different natural frequencies;

(b) means for simultaneously exciting natural vibrations of the plurality of cantilevers by constant light excitation as a result of illuminating the plurality of cantilevers having different natural frequencies with a common laser excitation spot; and

(c) a laser Doppler meter for measuring the excitations.

Claim 45 (New): A device for measuring vibration frequency of a multi-cantilever comprising:

(a) a plurality of cantilevers implanted radially at an island-shaped base and having different natural frequencies;

(b) means for simultaneously exciting natural vibrations of the plurality of cantilevers by constant light excitation as a result of illuminating the plurality of cantilevers having different natural frequencies with a common laser excitation spot; and

(c) a homodyne interferometer for measuring the excitations.